



H0004181-1633

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

R. HORNING

Serial No.: 10/673,453

Filed: September 30, 2003

For: POLYMER ACTUATOR HAVING  
A CIRCULAR UNIT CELL

Art Unit: Unknown

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicants wish to make of record in the above-identified application the document or documents referenced on the attached Form PTO-1449. A copy of each reference is enclosed herewith.

The undersigned believes that this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits for the above-referenced application.

Accordingly, Applicants do not believe that a fee is due for filing this paper. However, should a first action on the merits have been issued on the same day or before this Information Disclosure Statement is filed, please accept this Information Disclosure Statement under Rule 97(c) and charge the requisite Rule 17(p) fee to our Deposit Account No. 50-1390, under Order No.

H0004181-1633 and proceed to consider this Information Disclosure Statement.

01/06/2004 JBALINAN 00000086 501390 10673453

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Serial No.: 10/673,453  
Art Unit: Unknown

Attorney's Docket No.: H0004181-1633  
Page 2

It is respectfully requested that the information be expressly considered during the prosecution of this application, and that each reference be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This submission does not represent that any referenced document is material or constitutes "prior art." If it should be determined that one or more of the referenced documents constitute "prior art" under United States law, Applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of the reference or references.

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over any referenced document, should it be applied against the claims of the present application.

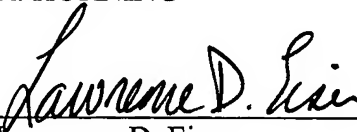
SHAW PITTMAN LLP  
1650 Tysons Boulevard  
McLean, VA 22102  
Tel: 703/770-7900

Date: January 5, 2004

Respectfully submitted,

R. HORNING

By:

  
Lawrence D. Eisen  
Registration No. 41,009

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MATTHEW S. LUXTON  
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PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/673,453		
		Filing Date	9/30/03		
		First Named Inventor	R. HORNING		
		Art Unit	Unknown		
		Examiner Name	Not Yet Assigned		
Sheet	1	of	2	Attorney Docket Number	H0004181-1633

U.S. PATENT DOCUMENTS					
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number- Kind Code <sup>2</sup> (if known)			
		US-5,250,167	10/5/93	Adolf et al.	
		US-5,350,966	9/27/94	Culp	
		US-5,901,939	5/11/99	Cabuz et al.	
		US-6,168,395	2/2/01	Quenzer et al.	
		US-6,376,971	4/23/02	Pelrine et al.	
		US-6,215,221	4/10/01	Cabuz et al.	
		US-6,288,472	9/11/01	Cabuz et al.	
		US-6,358,021	3/19/02	Cabuz	
		US-6,411,013	6/25/02	Horning	
		US-6,491,663	12/10/02	Lemelson	
		US-6,184,608	2/6/01	Cabuz et al.	
		US-6,179,586	1/30/01	Herb et al.	
		US-2002/0026794	3/7/02	Shahinpoor et al.	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
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Examiner Signature		Date Considered	
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Application Number</b>	10/673,453
		<b>Filing Date</b>	9/30/03
		<b>First Named Inventor</b>	R. HORNING
		<b>Group Art Unit</b>	Unknown
		<b>Examiner Name</b>	Not Yet Assigned
		<b>Attorney Docket Number</b>	H0004181-1633
<b>Sheet</b>	2	<b>of</b>	2

<b>OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS</b>			
<b>Examiner Initials</b>	<b>Cite No.<sup>1</sup></b>	<b>Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.</b>	<b>T<sup>2</sup></b>
		Pelrine et al. "Electrostriction of Polymer Dielectrics with Compliant Electrodes as a Means of Actuation", Sensors and Actuators A 64 (1998) 77-85	<input type="checkbox"/>
		Kornbluh et al. "Electrostrictive Polymer Artificial Muscle Actuators" Proceeding of the 1998 IEEE International Conference of Robotics and Animation Leuven, Belgium, May 1998	<input type="checkbox"/>
		Desai et al. "A MEMS Electrostatic Particle Transporation System", Sensors and Autuators 73 (1999) 37-44	<input type="checkbox"/>
		Pomsin-Sirirak et al. "Flexible Parylene Actuator for Micro Adaptive Flow Control"	<input type="checkbox"/>
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<b>Examiner Signature</b>		<b>Date Considered</b>	
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